

TITLE 24 PROPOSED PUBLIC POOL REGULATIONS – APRIL 2006

The Department of Health Services (DHS) is working with the California Conference of Directors of Environmental Health to revise the existing public swimming pool regulations. These new regulations will require the public pools in California to meet current health and safety practices, standards, and operational requirements. Inquires about these draft regulations should be directed to the Environmental Health Services Section, P.O. Box 942734, MS 7404, Sacramento, CA 94234-7320, Attention Dave Quinton.

CALIFORNIA CODE OF REGULATIONS

TITLE 24

Chapter 31B

ARTICLE 1 – PUBLIC POOLS

GENERAL

Section 3101B - Scope.

The provisions of this Chapter shall apply to the construction, installation, renovation, alteration, addition, relocation, replacement, or use of any public ~~swimming pool~~, and to its appurtenant ~~auxiliary~~ ancillary ~~areas and~~ facilities and to its mechanical equipment and related piping.

Notes: 1. Examples of public pools include ~~these located in~~ the following: commercial ~~buildings~~ pools, hotel pools, motel pools, resort pools, automobile and, trailer park or mobile home park pools, ~~automobile court, mobile home park,~~ campground pools, apartment house pools, condominium pools, townhouse pools, homeowner association pools, club pools, community building or area pools, public or private school pools, ~~gymnasium,~~ and health establishment pools, water park pools, swim school pools, medical facility pools, bed and breakfast pools and licensed day care pools.

Notes 2. See the California Energy Code, Part 6, for additional ~~swimming~~ public pool standards.

Section 3102B - Definitions.

Abbreviations (technical):

"ANSI" means American National Standards Institute.

"APHA" means American Public Health Association.

"ASTM" means American Society for Testing Materials.

"fps" means feet per second.

"gpm" means gallons per minute.

"NSF" means NSF International.

"NSPF" means National Swimming Pool Foundation

"NSPI" - means National Spa and Pool Institute.

"ppm" - means parts per million.

~~For the purposes of this Chapter, the following terms shall have the meanings indicated:~~

Definitions:

AIR GAP means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet conveying water or waste to a tank, plumbing fixture receptor or other device and the flood level rim of the receptacle.

~~**AUXILIARY**~~ **ANCILLARY AREA FACILITY** ~~is a public dressing, locker, shower or toilet area or building space intended to be used by bathers~~ means any area used in conjunction with, or operation of, a pool such as public dressing, locker,

shower or bathroom areas, equipment room, pool deck area or building space intended to be used by pool users.

BACKWASH is means the process of reversing the flow of water through the filter to thoroughly cleansing clean the filter media and/or elements and the contents of the filter vessel.

~~**BATHER** is a person using a pool and adjoining deck areas for the purpose of water sports such as diving, swimming, wading, or related activities.~~

~~**CLEAN POOL WATER** is pool water that is free of dirt, oils, scum, algae, floating materials, or other visible organic and inorganic materials that would sully the water.~~

CLEAR POOL WATER is pool water that is free from cloudiness and is transparent.

~~**CORROSION-RESISTANT** is capable of maintaining original surface characteristics under the prolonged influence of the use environment.~~ means the ability of a material to maintain its original surface characteristics under the prolonged influence of the use in its environment.

~~**DECK** is an area surrounding a pool which is specifically constructed or installed for use by bathers.~~

DIATOMACEOUS EARTH means a filtering media consisting of microscopic fossilized skeletons of diatoms.

~~**DRAIN** is a fitting or fixture, usually at or near the bottom of a pool, through which water leaves the pool normally to the recirculation pump.~~

EASILY CLEANABLE means a characteristic of a surface or material that allows removal of dirt, stains or residue by normal cleaning methods.

EFFECTIVE PARTICLE SIZE ~~is~~ means the theoretical size of sieve (in mm) that will pass 10 percent by weight of the sand.

ENFORCING AGENCY AGENT means the ~~H~~health ~~O~~fficer or ~~D~~irector of ~~E~~nvironmental ~~H~~health or ~~their~~ the designated ~~Registered sanitarian representative~~ Environmental Health Specialists or Environmental Health Specialist Trainees.

ENGINEER means either a California licensed civil engineer or a California Registered Architect.

EQUIPMENT AREA ~~is~~ means an area used ~~for pool~~ to house recirculation and purification ~~disinfection~~ equipment and all related ~~piping~~ appurtenances.

FREEBOARD means the vertical dimension between the top of the sand filter layer and the distribution piping of a sand type filter.

HANDHOLD means a structure located at or above the water line around the perimeter of the pool wall that provides a physical means for a pool user to grasp the pool side.

INLET ~~is~~ means a fitting or fixture through which ~~circulation~~ water enters the pool.

INTERACTIVE WATER FOUNTAIN/FEATURE means a special purpose pool that has no ponding of water in the splash zone and consists of an underground reservoir with a recirculation system from which water is directed through sprays, jets or other means for contact with pool users.

LADDER ~~is~~ means a series of vertically separate treads or rungs either connected by vertical rail members or independently fastened to an adjacent vertical pool wall.

LIVING UNIT means any building or portion thereof that contains living facilities, including provisions for sleeping.

MAIN DRAIN means the suction outlets located at the deepest part of the pool.

MAXIMUM POOL USER LOAD means the maximum number of persons allowed in a pool at any one time.

MEDICAL POOL ~~is~~ means a special purpose pool used by a state recognized medical institution engaged in the healing arts under the direct supervision of licensed medical personnel for treatment of the infirm.

OUTLET means a fitting or fixture through which water is removed from the pool.

OZONE CONTACT CONCENTRATION means the amount of ozone that is dissolved in the pool water.

PERIMETER OVERFLOW SYSTEM ~~is~~ means ~~the a~~ a system which includes perimeter-type overflow gutters, ~~surface skimmers,~~ surge capacity or ~~collector tanks,~~ other similar surface water collective system components and their interconnecting piping.

POOL ~~is a constructed or prefabricated artificial basin, chamber or tank intended to be used primarily by bathers, and not for cleaning of the body or for individual therapeutic use~~ means a wholly artificial basin, chamber or tank, constructed or prefabricated with impervious bottoms and sides that is used, or intended to be used for public recreational swimming, diving or bathing but does not include

baths where the main purpose is the cleaning of the body, individual therapeutic tubs, or pools intended for non-commercial use as a pool by the occupants of not more than three dwelling or living units.

POOL AREA means the area within the pool enclosure as required in Section 3119B.

POOL USER means a person using a pool and adjoining deck areas for the purpose of water activity such as swimming, wading, diving or other water related activities.

~~**POOL VOLUME** is the amount of water expressed in gallons (liters), that a pool holds when filled.~~

~~**PRIVATE POOL** is any constructed pool, permanent or portable, which is intended for non-commercial use as a swimming pool by not more than three owner families and their guests.~~

~~Note: A single family residence is a Group R, Division 3 Occupancy.~~

~~**PUBLIC POOL** is a pool other than a private pool.~~

RADIUS OF CURVATURE means the radius arc, which denotes the curved surface from the point of departure from the springline of the pool to the pool bottom.

READILY ACCESSIBLE means capable of being reached easily for cleaning, repair replacement, or inspection without requiring a person to climb over or remove obstacles or use portable ladders, chairs or similar devices.

READILY DISASSEMBLED means capable of being taken apart by hand or by using only simple tools such as a screwdriver, pliers or open-end wrench.

RECESSED STEPS STAIRS is means a riser/tread or series of risers/treads extending down into the pool from the deck with the bottom riser or tread terminating at flush or recessed back from the pool wall ~~(thus creating a "stair well")~~.

~~**RECESSED TREADS** are a series of vertically spaced cavities in the pool wall creating tread areas for step holes.~~

RECIRCULATION SYSTEM ~~is the interconnected system traversed by the recirculated water from the pool until it is returned to the pool, i.e., from the pool through the collector or surge tank, recirculation pump, filters, chemical treatment and heater (if provided), and returned to the pool.~~ means the system of hydraulic components designed to remove the water from the pool to allow filtration, disinfection and return to the pool.

RIMFLOW OVERFLOW SYSTEM means a perimeter overflow system in which the overflow rim is at the same elevation with the deck.

RISER means the vertical portion of a step.

SHALLOW POOL is means a pool that has a maximum water depth of less than 6 feet ~~(1829 mm)~~ or less.

SLIP-RESISTANT ~~is a rough finish that is not abrasive to the bare foot.~~ means a surface having a coefficient of friction greater than 0.6.

SPA POOL means a pool that is constructed to incorporate a water jet system, an aeration system, or a combination of the two systems used in conjunction with water heated between 90 and 104 degrees Fahrenheit.

SPECIAL PURPOSE POOL means a pool constructed exclusively for a specific activity, such as instruction, diving, competition, or medical treatment.

SPLASH ZONE means the maximum distance the water from an interactive water fountain/feature can project horizontally.

SPRINGLINE means the point from which the pool wall breaks from vertical and begins its arc in the radius of curvature.

STAIRS ~~are~~ means a series of ~~two or more~~ steps, each consisting of a riser and tread.

STEP is means a riser and tread.

STEP HOLES means a series of horizontal cavities vertically spaced in the pool wall creating tread areas for pool ingress and egress.

STEP TREAD OR TREAD means the horizontal part of the step.

STEPS, RECESSED STEPS, LADDERS, AND RECESSED TREADS are those means of entry and exit to and from the pool which may be used in conjunction with each other.

SURGE CHAMBER means a reservoir, or surge trench open to the atmosphere, to receive water via gravity flow from the main drain line and surface overflow system and from which the pump draws the water to the filtration and disinfection equipment.

TREATMENT OF WATER is the process of conditioning and disinfection of pool water by means of a combination of filtration and the addition of chemicals to the water.

TURNOVER TIME ~~is the period of time, in hours, required to circulate a volume of water equal to the pool capacity~~ means the minimum time necessary to circulate one complete volume of the pool water through the recirculation system.

UNIFORMITY COEFFICIENT ~~is~~ means the ratio of theoretical size of sieve (in mm) that will pass 60 percent of the sand to the theoretical size of sieve (in mm) that will pass 10 percent.

WADING POOL means a pool constructed for wading by children and having a maximum water depth of 18 inches at the deepest point and a maximum water depth of 12 inches at the sidewalls.

WATERLINE ~~shall be defined in one of the following ways:~~

- ~~1. **Skimmer system.** The waterline shall be the midpoint of the operating range of the skimmers.~~
- ~~2. **Overflow system.** The waterline shall be the top edge of the overflow rim.~~

~~Section. 3103B Special Pool Classifications~~

~~3103B.1 Spa Pool.~~ A spa pool is a pool, not used under medical supervision, that incorporates a water jet system, an aeration system, or a combination of the two systems, and which may also utilize artificially heated water. The surface water area of a spa pool shall not exceed 250 square feet (23 m²), and the water depth shall not exceed 4 feet (1219 mm).

~~Note:~~ See also Section 3119B.1.2.

~~3103B.2 Special Purpose pool.~~ A special purpose pool is a pool intended to be used exclusively for a single purpose, such as wading, instruction, diving, competition, or for medical treatment where a licensed professional in the healing arts is in attendance.

~~3103B.3 Temporary Training Pool.~~ A temporary training pool is a pool intended to be used for instruction in swimming, having a maximum water depth of 36 inches (914 mm), and so constructed as to be readily disassembled for storage or for transporting to and reassembly to its original integrity at a different location. A temporary training pool shall be limited to a maximum use of three months at any one geographical location during any 12 month period.

~~3103B.4 Wading pool.~~ A wading pool is a pool intended to be used for wading by small children and having a maximum depth of 18 inches (457 mm) at the deepest point and a maximum depth of 12 inches (305 mm) at side walls.

PLAN REVIEW, PERMITS, CONSTRUCTION, AND FIELD INSPECTIONS

Section 3103B - Plan Review.

3103B.1 A person proposing to construct, renovate or alter a pool, ancillary facility or equipment and any appurtenances shall submit plans and specifications detailing compliance with this Chapter to the enforcing agency for review and written approval prior to commencing construction. Proposed handicap facilities shall be shown on all plans. A local building department shall not issue a permit for a public pool or ancillary facility until the plans have been approved by the enforcing agency.

3103B.2 Plans submitted for approval pursuant to this section shall be drawn to a scale of $\frac{1}{4}$ inch equals 1 foot, except that plans for spa pools shall be drawn to a scale of 1 inch equals 1 foot.

3103B.3 Within 30 working days of the receipt of plans and specifications, the enforcing agency shall notify the person submitting the plans and specifications of approval or disapproval.

3103B.4 The enforcing agency shall retain one copy of the approved plans and specifications and any subsequent changes or modifications. The approved plan shall be valid for a period of one year from the date of approval.

~~Section 3104B. Accessibility to the Physically Handicapped Person~~

~~Swimming pools and their appurtenances shall be in compliance with the requirements of the state architect for access to public accommodations by physically handicapped persons.~~

~~**Note:** See Chapter 11 A.~~

Section 3104B - Construction

Pools, all ancillary facilities, equipment and appurtenances shall be constructed, renovated or altered in compliance with plans approved pursuant to Section 3103B.

Section 3105B – Plan Compliance Inspections During Construction

The pool owner, or designated agent, shall obtain inspections from the enforcing agent prior to applying gunite or plaster to the pool shell and at the completion of construction prior to placing the pool into operation.

**Section 3106B - ~~Pool Construction~~ Interactive Water Fountain/Feature
Special Requirements.**

The provisions of this Section shall apply to the interactive water fountain/feature pool.

All provisions of this Chapter shall apply to interactive water fountain/feature pools unless specifically addressed in this section.

3106B.1 All parts of the interactive water fountain/feature shall be designed, constructed, maintained and operated so there are no slip, trip or fall hazards or other conditions that may pose a safety hazard.

3106B.2 The splash zone shall be sloped so that only water from the interactive water fountain/feature flows back to the underground reservoir. Areas adjacent to the splash zone shall be sloped away from the interactive water fountain/feature to deck drains or other surface water disposal systems.

3106B.3 There shall be no ponding of water within the splash zone.

3106B.4 Nozzles that spray from the ground level shall be flush with the ground, with openings no greater than one-half inch.

3106B.5 All foggers and misters that produce finely atomized mists shall be supplied directly from a potable water source and not from the underground reservoir.

3106B.6 The recirculation system shall not be directly interconnected with the interactive water fountain/feature pump.

3106B.7 The interactive water fountain/feature pump and recirculation system pump shall be electrically interconnected so when the recirculation pump is off the interactive water fountain/feature pump is also off.

3106B.8 The total volume of the underground reservoir shall be at least 4,000 gallons and a minimum of three times the gpm flow rate of all the interactive water fountain/feature pumps and the recirculation pump combined.

3106B.9 The turnover time shall be one-half hour or less.

3106B.10 The suction intake of the interactive water fountain/feature pump in the underground reservoir shall be located adjacent to the recirculation return line.

3106B.11 The suction intake from the recirculation pump shall be located in the lowest portion of the underground reservoir.

3106B.12 The underground reservoir shall have an access for cleaning and inspection.

3106B.13 The reservoir shall be equipped with an automatic make up water fill device.

3106B.14 Section 3116B and 3119B.1 shall not apply to interactive water fountain/feature pools.

~~Section. 3107B Additional Requirements for a Temporary Training Pool~~

~~**3107B.1** A temporary training pool shall comply with this section in addition to the provisions contained in Section 3106B.~~

~~**3107B.1.1 Installation Site.** A temporary training pool shall be installed on a paved level surface extending at least 10 feet (3048 mm) beyond all pool walls.~~

~~**3107B.1.2 Cover.** The temporary training pool shall be provided with a solid cover. The cover shall be installed during periods when the pool is not open for use and shall be secured to the pool in a manner to prevent unauthorized removal.~~

~~**3107B.1.3 Design.** The pool cover shall be designed to support a uniform live load of 40 pounds per square foot (1.9kN/m²). The structural design of the pool and cover shall be approved by a California registered professional engineer.~~

Section ~~3105B~~ 3107B - Alternate Equipment, Materials, and Methods of Construction.

~~3105B.1~~ 3107B.1 The enforcing ~~agency~~ agent may approve an alternative equipment material or method of construction, provided it finds that the proposed design is satisfactory and complies with the provisions of this chapter, that the equipment, material, method or work offered is, for the purpose intended, at least equivalent to that prescribed in suitability, strength, effectiveness, fire resistance, durability, safety, and sanitation, or that the methods of installation proposed conform to other acceptable nationally recognized standards, and providing the alternate has been approved and its use authorized by the enforcing ~~agency~~ agent.

~~3105B.2~~ 3107B.2 The enforcing ~~agency~~ agent shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its the use of alternate equipment, materials or methods of construction.

~~3105B.3~~ 3107B.3 Whenever there is insufficient evidence of compliance with the provisions of this chapter, the enforcing ~~agency~~ agent may require tests as proof of compliance to be made at no expense to the enforcing ~~agency~~ agent. Tests shall be made in accordance with approved standards, but in the absence of such standards, the enforcing ~~agency~~ agent shall specify the test procedure.

~~Section 3106B~~ 3108B - Pool Construction

~~3106B.1~~ 3108B.1 - Pool Shell Structural Integrity. The pool shall be designed and durably built of reinforced concrete, or material equivalent in strength, shall be watertight, and be able to withstand anticipated stresses under both full and empty conditions, taking into consideration climatic effect, geological conditions, integration of the pool with other structures and similar factors.

~~3106B.2~~ 3108B.2 - Finish. The finished pool shell shall be ~~lined with a smooth slip-resistant, solid, and~~ a waterproof interior finish that will withstand repeated brushing, scrubbing and cleaning procedures. The interior pool finish shall completely line the pool to the tile lines, coping or cantilevered deck.

~~3106B.3~~ 3108B.3 - Finish Color. The finish color shall be white except for the following, which shall be of contrasting color:

1. Lane and other required pool markings described in Section ~~3109B-~~ 3110B;
- ~~2. Handholds;~~
- ~~3. Copings;~~
4. 2. The top surface edges of benches in spas and;
- ~~5. 3. The edge of spa pool steps;~~
4. Tiles installed at the water line.

EXCEPTION: A spa pool may be finished in a color other than white when approved by the enforcing ~~agency~~ agent.

~~3106B.4~~ 3108B.4 - Projections and Recessed Areas. The ~~surfaces of the pool shall not have any projections or recessed areas except for~~ handholds, recessed treads, steps, ladders, stairs, pool inlets and outlets, skimmers, and

~~perimeter overflow systems~~ projections and recesses in the pool shell design as specified in Section 3109B.

EXCEPTION: ~~Benches shall be permitted in a spa pool providing that the water depth over the bench does not exceed 24 inches (610 mm).~~ This section shall not apply to handholds, recessed treads, steps, ladders, stairs, handrails, skimmers or perimeter overflow systems.

Section ~~3108B~~ 3109B - Pool Geometry.

~~3108B.1~~ 3109B.1 - Dimensions and Slopes General. ~~The dimensions and slopes of a A pool shall conform to the appropriate criteria in Figure 31B-1 through 31B.3 6.~~

~~EXCEPTION: A special purpose pool shall be permitted a depth greater than 3 1/2 feet (1067 mm) at the shallowest end~~ A special purpose pool shall be exempted from construction standards that are not applicable to the proposed use.

~~3108B.2~~ 3109B.2 - Drainable. The pool shall be completely drainable through a main drain which shall be located at the deepest point in the pool.

~~3108B.3~~ 3109B.3 - Dimensional Tolerances. A construction tolerance shall be permitted on all dimensions in Figures 31B-1, 31B-2, and 31B-3, not to exceed 2 inches (51 mm) except that the tolerance of the water level of a pool with a nonadjustable overflow system shall not exceed or 1/8 inch (3.2 mm).

~~3108B.4~~ 3109B.4 - Bottom Slope Break from Shallow to Deep Water. ~~When a pool has a change in bottom slope from shallow to deep water, flush mounted devices for fastening a safety rope and buoys across the pool shall be installed where the water depth is 4 1/2 feet (1372 mm).~~ Any portion of a pool having a water depth of 4 1/2 feet or less shall have a uniform slope that shall not exceed 1 foot vertical in 10 feet of horizontal. In pools with water depths greater than 4 1/2 feet, the slope shall meet the requirements in Figures 31B-1 through 31B-4. There shall be a uniform water depth along the entire base of the stairs.

Section ~~3109B~~ 3110B - Permanent Markings

3110B.1 - General. No markings or designs shall be permitted on the pool shell except for slip-resistant lane markings, depth marking lines and/or safety markings.

~~3109B.1~~ 3110B.2 - Lane Markings. Slip-resistant lane lines or other markings at the bottom of the pool shall not exceed 12 inches (~~305 mm~~) in width.

~~3109B.2~~ 3110B.3 Depth - Marking Line. There shall be installed a straight line of slip-resistant tile 4 inches (~~102 mm~~)-wide of contrasting color across the bottom of the pool from where the water depth is 4 1/2 feet (~~1372 mm~~).

EXCEPTION: Pools having a maximum water depth of 5 feet (~~1524 mm~~) or less shall not be required to have a depth marking line.

~~3109B.3 Decorative Designs.~~ ~~Designs on the bottom or walls of the pool which are shaped in a form that might reasonably be mistaken for, or give the illusion of being, a human form, shall be prohibited.~~

~~3109B.4~~ 3110B.4 - Water Depth Markers.

3110B.4.1 - General. The water depth shall be clearly marked at the following locations:

1. Maximum depth;
2. Minimum depth;
3. Each end;
4. At the break in the bottom slope between the shallow and deep portions of the pool (see also Section ~~3108B.4~~ 3109B.4); and

5. On the perimeter of the pool at distances not to exceed 25 feet ~~(7620 mm)~~.

EXCEPTION: A spa or wading pool shall have a minimum of two depth markers indicating the maximum depth.

3110B.4.2 - Location. Depth markers shall be located on the vertical pool walls at each end and side of the pool at or above the water level. If a pool exceeds 20 feet ~~(6096 mm)~~ in width, additional markers shall be located on the edge of the deck next to the pool.

EXCEPTION: If depth markers cannot be located on the vertical pool walls above the waterline because of the pool design, the depth markers shall be located so as to be clearly visible to bathers in the pool.

3110B.4.3 - Tolerance. Depth markers shall be positioned to indicate the water depth accurate to the nearest 6 inches ~~(152 mm)~~.

3110B.4.4 - Size of Markers. Depth markers shall:

1. Have numerals a minimum of 3 inches ~~(76 mm)~~ in height and of a color contrasting with the background;
2. Be made of a durable material that is resistant to weathering; and
3. Be slip-resistant when they are located on the pool deck.

Section ~~3110B~~ 3111B Steps, Recessed Steps, Ladders, and Recessed Stairs (Treads)

~~3110B.1~~ 3111B.1 - Construction. A means of entry and exit to and from the pool shall consist of steps, recessed steps, ladders or stairs, or a combination of them. One means of entry and exit shall be provided in the shallowest portion of a pool if the vertical distance from the bottom of the pool to the deck is over 2 feet (~~610 mm~~). A second means of entry and exit shall be provided in the deep portion of a pool having a depth greater than 4 1/2 feet (~~1372 mm~~). -Where the width of the pool exceeds 30 feet (~~9144 mm~~), such means of entry and exit shall be provided at each side, not more than 100 feet (~~30 480 mm~~) apart.

Note: For illustrated diagrams pertaining to this section, see Figure 31B-5.

~~3110B.2~~ 3111B.2 - Ladders. Ladders with a handhold shall be corrosion resistant and shall be equipped with slip-resistant tread surfaces. Ladders shall be rigidly installed and shall provide a clearance of not less than 3 inches (~~76 mm~~) or more than 5 inches (~~127 mm~~) between any part of the ladder and the pool wall.

~~3110B.3~~ 3111B.3 - Stairs. Each step of a stair shall have the same dimensions with a tread not less than 12 inches (~~305 mm~~) wide, except that if the top step is curved convexly, the top step tread shall not be less than 18 inches (~~457 mm~~) wide as measured at the point of maximum curvature. Risers shall be uniform and shall not exceed 12 inches (~~305 mm~~) in height. A safety railing shall be provided, extending from the deck to not less than a point above the top of the

lowest step and with the upper railing surface not less than 28 inches (~~711 mm~~) above the deck.

~~3110B.4~~ 3111B.4 - Steps and Step Holes. Steps and step holes shall have a ~~minimum~~ tread of 5 inches (~~127 mm~~), a width of 14 inches (~~356 mm~~), and shall be designed to be readily cleaned.

~~3110B.5~~ 3111B.5 - Hand Railings. Hand railings shall be provided at the top of both sides and shall extend over the coping or edge of the deck for each ladder and step hole.

~~3110B.6~~ 3111B.6 - Steps for a Spa Pool. Each step of a spa pool shall have a tread width not less than 12 inches (305 mm). Risers shall not exceed 9 inches (~~229 mm~~) in height when one handrail is provided, or 12 inches (~~305 mm~~) in height when two handrails are provided. A handrail shall be installed over the steps, with the leading railing edge extending up to a point not less than 12 inches (~~305 mm~~) from the plane of the bottom riser. The steps shall be located where the deck is at least 4-feet (~~1219 mm~~) wide.

Section ~~3111B~~ 3112B - Handholds.

~~3111B.1~~ 3112B.1 - General. Every pool shall be provided with a handholds (perimeter overflow system, bull-nosed coping or cantilevered decking) around the entire perimeter installed not greater than 9 inches (~~229 mm~~) above the waterline.

EXCEPTION: Handholds are not required for wading pools.

~~3111B.2~~ 3112B.2 For special use pools used for instruction or competitive swimming, a handhold at water level similar to the rim of a perimeter overflow system is required.

~~3111B.3~~ 3112B.3 Where perimeter overflow systems are not provided, a bull-nosed coping or cantilevered decking of reinforced concrete, or material equivalent in strength and durability, with rounded, slip-resistant edges shall be provided. The overhang for either bull-nosed coping or cantilevered decking shall not exceed 2 inches (~~51 mm~~) or be less than 1 inch (~~25 mm~~) and shall not exceed 2 1/2 inches (~~64 mm~~) in thickness.

EXCEPTION: The enforcing ~~agency~~ agent may accept handholds other than those specified for spa pools.

Section ~~3112B~~ 3113B - Diving Boards and Platforms.

~~3112B.1~~ 3113B.1 - General Construction. ~~Diving boards and their supports, platforms and steps shall be substantially constructed and shall be of sufficient structural strength to carry the maximum anticipated load.~~ Diving boards and platforms shall be anchored on the pool deck and finished with a durable slip-resistant material maintained free of cracks, splinters, or trip hazards. ~~Steps~~ Diving boards and platforms shall be of corrosion-resistant material, easily cleanable and of slip-resistant design and construction.

~~3112B.2~~ 3113B.2 - Railings and Steps. Handrails shall be provided at all steps and ladders leading to diving boards or platforms more than 1 meter above the water, ~~except those steps or ladders set 15 degrees or less from the vertical.~~ Platforms and diving boards that are over 1 meter above the water shall have ~~Guardrails extending on both sides that extend~~ to a point on the platform directly above the water's edge ~~shall be provided on both sides of all platforms and diving boards which are over 1 meter high.~~ Guardrails shall be 36 inches (~~914 mm~~) above the platform or diving board. Diving boards greater than 18 inches in height above the deck shall be provided with a ladder or stairs.

3113B.3 - Dimensions. Dimensions for diving boards or platforms shall conform to those shown in Figures 31B-1 and 31B-2. Platforms and diving boards greater than 3 meters above the water shall conform to the USA Diving Rules and Codes Part 1, Subpart A and Appendix B effective January 1, 2005.

Section ~~3113B~~ 3114B - Pool Decks.

~~3113B.1~~ 3114B.1 - General. A minimum continuous and unobstructed 4 foot wide, slip-resistant, cleanable, non-abrasive deck area of concrete or like material shall be provided flush with the ~~top of the pool shell wall~~ coping, extending completely around the pool and the deck area shall further extend 4 feet (~~1219 mm~~) on both sides and rear of any diving board, fixed handicap devices or slide and their appurtenances. The deck width shall be measured from the poolside edge of the coping lip.

~~EXCEPTIONS:~~ ~~1. A deck at least 4 feet (1219 mm) in width shall extend around 50 percent or more of the perimeter of a spa pool. For spa pools that have their walls extending above the ground or floor level, the deck area requirement shall apply at the ground or floor level unless otherwise specified by the enforcing agency.~~

~~2. The deck width separating a spa pool from an adjacent pool shall not be less than 6 feet (1829 mm) wide.~~

~~3. The deck may be omitted from around a temporary training pool.~~

~~3113B.2 Deck Drainage.~~ ~~The pool deck surfaces shall be sloped a minimum of 1/4 inch (6.4 mm) per foot to deck drains or other approved surface water disposal areas. The pool deck surface shall not drain into the pool, its perimeter overflow channel, into an adjoining spa or other pool, or be connected to the recirculation system.~~

~~Note: A deck drain system of one 4 inch (102 mm) drain inlet per 400 square feet (37m²) of tributary deck area, with drains spaced 25 feet (7620 mm) apart, usually provides adequate surface water disposal.~~

3114B.2 - Deck between pools and/ or spas. Where multiple pools, and/or spas are built adjacent to each other, the deck width separating them shall be 6 feet.

~~**3113B.3 Pool Coping.** Pool coping shall be slip-resistant.~~

3114B.3 - Deck slope. The pool deck surface shall be sloped away from the pool a minimum of 1/4 inch per foot to a deck drainage system. Water shall not pond on the deck.

~~**3113B.4 Coverings.** Artificial covering shall be permitted on the deck area when approved by the enforcing agency.~~

~~**Note:** Deck slopes to provide proper drainage may vary with the texture of the surface. It is recommended that the minimum slope be increased if artificial coverings or exposed aggregate concrete surface is contemplated.~~

3114B.4 - Deck Covering. Deck coverings or other materials that are not equivalent to concrete in strength, durability, slip-resistance and not able to withstand repeated brushing, scrubbing or cleaning procedures shall not be installed or used within 4 feet of the pool.

~~**3113B.5** Handrails shall be provided around the perimeter of any raised deck of a temporary training pool.~~

~~**3113B.6 Unpaved Areas.** Landscape plants, flower beds, or similar unpaved areas shall not be located within 4 feet (1219 mm) of a spa pool.~~

Section ~~3114B~~ 3115B - Pool Lighting

~~3114B.1~~ 3115B.1 - General. Where pool lighting is provided, it shall be such that lifeguards or other persons may observe, without interference from direct and reflected glare from the lighting sources, every part of the underwater area and swimming pool surface, all diving boards or other pool appurtenances. If underwater or deck surface lighting is not operational, the operator of the pool shall secure the pool area and not permit any use of the pool after dark and shall post the same sign as required in section 3120B.9.

Note: See (Part 3) Article 3-680 for electrical installation requirements.

~~3114B.2~~ 3115B.2 - Nighttime Use. Pools used at night shall be equipped with underwater lighting fixtures that will provide complete illumination to all underwater areas of the pool with no blind spots. Illumination shall enable a lifeguard or other persons to determine whether:

1. A bather is lying on the bottom of the pool, and
2. The pool water conforms to the definition of "clear pool water".

EXCEPTION: Pools provided with a system of overhead lighting fixtures, where it can be demonstrated to the enforcing agency that the system is equivalent to the underwater fixture system.

~~3114B.3~~ 3115B.3 - Deck Area Lighting. Where the pool is to be used at night, pool deck areas shall be provided with lighting so that persons walking on the deck can identify hazards. Lighting fixtures shall be aimed towards the deck area and away from the pool surface insofar as practical.

Section ~~3115B~~ 3116B - Bathhouse, Dressing, Shower, and Toilet Facilities.

~~3115B.1~~ 3116B.1 Public Toilets Shower and dressing facilities shall be provided for ~~users of a pool~~ pool users.

EXCEPTIONS: 1. Shower and dressing facilities ~~may not be~~ are not required when ~~bathers~~ pool users have access to ~~such~~ these facilities in adjacent living quarters.

2. Public toilet facilities may be omitted when bathers have access to toilet facilities either in living quarters located not more than 300 feet (~~91440 mm~~) in travel distance from the pool, or in an adjacent building such as a recreational facility, clubhouse, or cabana.

~~3115B.2~~ 3116B.2 - Number of Sanitary Facilities. For the purpose of this subsection, one ~~bather~~ pool user shall be considered for every 15 square feet (~~1.39 m²~~) of pool water surface area.

~~3115B.2.1~~ 3116B.2.1 Showers. One shower shall be provided for every 50 ~~bathers~~ pool users or fraction thereof.

~~3115B.2.2~~ 3116B.2.2 Toilets. Separate toilet facilities shall be provided for each sex. One toilet shall be provided for every 60 women or fraction thereof ~~and~~ one toilet plus one urinal for every 75 men or fraction thereof.

~~3115B.2.3~~ 3116B.2.3 Lavatories. One lavatory shall be provided for every 80 ~~bathers~~ pool users or fraction thereof.

3116B.2.4 Soap Dispensers. Showers and lavatories shall be provided with permanently installed soap dispensers.

3116B.2.5 Towels and Toilet Tissue. Single use towels or hot air blowers and toilet tissue shall be provided in permanently installed dispensing devices.

3115B.3 3116B.3 - Construction.

3115B.3.1 3116B.3.1 Floors. Floors shall have a hard durable, nonabsorbent, slip-resistant surface, such as ~~portland cement~~ concrete, ceramic tile or other ~~approved~~ similar material, which extends upward onto the wall at least ~~5~~ 4 inches (~~127 mm~~) with a minimum 3/8 inch radius coved base. ~~Floors which may be walked on by a wet bather shall be slip resistant.~~ Floors shall be sloped not less than 1/4 inch (~~6.4 mm~~) per foot to floor drains or other ~~approved surface water disposal areas.~~ Indoor/outdoor Carpeting and or other similar artificial floor covering types of material shall not be permitted on ~~shower and toilet room floors~~ toilet, shower, locker room or dressing facility floors.

Note: ~~Rough rotary, raised rubber or wood float finish of concrete usually provides a slip-resistant finish.~~

3115B.3.2 3116B.3.2 Interior Wall Surfaces. ~~The materials used in the walls, except for structural elements, shall be of a type which is not adversely affected by moisture.~~ Walls, doors and partitions of showers, toilets, dressing facilities, locker rooms, lockers and similar surfaces shall be light colored, smooth, nonabsorbent and cleanable.

3115B.3.3 3116B.3.3 Privacy. All doors and windows of any bathhouse, dressing room, shower or toilet facility shall be arranged to prevent viewing of the interior from ~~any portion of the building used by the opposite sex and from view from the outdoors.~~ View screens shall be permitted for this purpose the exterior.

~~3115B.4~~ 3116B.4 Water Supply.

~~3115B.4.1~~ 3116.B.4.1 Showers and lavatories shall be provided with hot and cold running water faucets under pressure.

~~3115B.4.2~~ ~~Tempered water shall be permitted in lieu of individual hot and cold water faucets.~~

~~3115B.4.3~~ 3116B.4.2 A means temperature control device to ~~limiting~~ the plumbing fixtures dispensing hot water to 110° ~~degrees~~ F Fahrenheit (~~61° C~~) maximum shall be provided ~~to prevent scalding on the water supply system~~. This temperature limit ~~control~~ shall not be adjustable by the ~~bather~~ pool user.

Section ~~3116B~~ 3117B - Drinking Fountains.

One guarded jet drinking fountain shall be provided within the pool enclosure for the first 250 ~~bathers~~ pool users and an additional guarded jet drinking fountain shall be provided for each additional 200 ~~bathers~~ pool users or fraction thereof.

The number of ~~bathers~~ pool users shall be determined according to Section ~~3115B.2~~ 3116B.2.

EXCEPTION: Drinking fountains shall not be required when drinking water is available at in adjacent living quarters, or in ~~an~~ adjacent buildings such as a bathhouse, cabana, clubhouse or recreational facility.

Section ~~3117B~~ 3118B - Hose Bibbs

Hose bibbs shall be provided ~~for each pool and located~~ so that all portions of the pool deck area may be reached with a ~~75-foot (22-860 mm) length of hose~~ attached to the hose bibb. A hose bibb shall be provided in the equipment area.

Hose bibbs shall be located so that they do not constitute a ~~safety hazard~~ and shall be protected by a backflow prevention device against backflow as required by the California Department of Health Services under Health and Safety Code Sections 116800-80.

Section ~~3118B~~ 3119B - ~~Enclosure of Pool Area~~ Enclosure.

~~3118B.1~~ 3119B.1 Enclosure. The pool shall be enclosed by one or a combination of the following: a fence, wall, and portion of a building, ~~wall~~ or other approved durable enclosure. Doors, openable windows, or gates of living quarters or associated private premises shall not be permitted as part of the pool enclosure. The enclosure, doors and gates shall meet all of the following specifications:

1. The enclosure shall have a minimum effective perpendicular height of 5 feet (~~1524 mm~~) as measured from the outside as depicted in Figures 31B.4 7a and ~~31B-5~~

2. Openings, holes or gaps in or under the enclosure, doors and/or gates shall not allow the passage of a 4-inch (~~102 mm~~) diameter sphere. ~~The bottom of the enclosure shall be within 2 inches (51 mm) of the finished grade. The enclosure shall be constructed over a hard and permanent material equivalent to concrete.~~

3. The enclosure shall be designed and constructed so that it cannot be readily climbed by small children. Horizontal and diagonal member designs, which might serve as a ladder for small children, are prohibited. Horizontal members shall be spaced at least 48 inches (~~1219 mm~~) apart. Planters or other structures shall not be permitted to encroach upon the clear span area as depicted in Figure 31B.5 7b. Chain link may be used provided that the openings are not greater than 1 $\frac{3}{4}$ inches (~~44 mm~~) measured horizontally.

~~3118B.2~~ **3119B.2 Gates.** Gates and doors opening into the pool enclosure shall also meet the following specifications:

1. Gates and doors shall be equipped with self-closing and self-latching devices. The self-latching device shall ~~be designed to~~ keep the gate or door securely closed. Gates and doors shall open outward away from the pool except where otherwise prohibited by law. Hand activated door or gate-opening hardware shall be located at least 3 1/2 feet (~~1067 mm~~) above the deck or walkway.

2. ~~Except as otherwise provided herein, g~~ Gates and doors shall be capable of being locked during times when the pool is closed. Exit doors which comply with Chapter 10 shall be considered as meeting these requirements.

EXCEPTION: Doors leading from areas of hotels and motels, as defined in the Business and Professions Code Section 25503.16(b), which are open to the general public, e.g., restaurants, lobbies, bars, meeting rooms, and retail shops need not be self-latching.

3. The pool enclosure shall have at least one means of egress without a key for emergency purposes. Unless all gates or doors are so equipped, those gates and/or doors which will allow egress without a key shall ~~be clearly and conspicuously labeled~~ have a sign in letters at least 4 inches (~~102 mm~~) high stating "EMERGENCY EXIT".

4. The enclosure shall be ~~designed and~~ constructed so that all persons will be required to pass through common pool enclosure gates or doors in order to gain

access to the pool area. All gates and doors exiting the pool area shall open into a public area or walkway accessible by all patrons of the pool.

~~3118B.3~~ 3119B.3 Retroactivity. Sections ~~3118B.1~~ 3119B.1 and ~~3118B.2~~ 3119B.2 shall apply only to a public swimming pool enclosures constructed on or after July 1, 1994.

~~3118B.4~~ 3119B.4 Enclosure of pools constructed prior to July 1, 1994.

When the physical characteristics of a site preclude providing a 4 foot wide (~~1219 mm~~) deck around the perimeter of an existing pool, the enforcing agency may allow the installation of an enclosure which reduces the pool deck to less than 4 feet (~~1219 mm~~) in width.

Section ~~3119B~~ 3120B - Required Signs.

3120B.1 General. Unless otherwise required, all signs shall have clearly legible letters or numbers, affixed to a wall, pole, gate or similar permanent structure, in a location visible to all pool users. Signs shall be maintained in a legible manner.

~~3119B.1~~ 3120B.2 Occupant Load Sign. A sign with clearly legible letters not less than 4 inches (~~102 mm~~) high shall be posted in a conspicuous place near the main entrance to a pool which shall indicate the number of occupants permitted for each pool.

~~3119B.1.1~~ 3120 B.2.1. Spa Pool. The occupant capacity of a spa pool shall be based on one ~~bather~~ pool user for every 10 square feet (~~0.929 m²~~) of pool water surface area.

~~3119B.1.2~~ 3120B.2.2. Other Pools. The occupant capacity for all other pools shall be based on one ~~bather~~ pool user or every 20 square feet (~~1.858 m²~~) of pool water surface area.

EXCEPTION: Occupant capacity requirements do not apply to wading pools.

~~3119B.2~~ 3120B.3. Signs for Shallow Pool. Signs with clearly legible letters not less than 4 inches (~~102 mm~~) high shall be posted in a conspicuous place and shall state: NO DIVING ALLOWED.

~~3119B.3~~ Warning Signs for Pools Using Gas Chlorine. Pools at which gas chlorine is used for disinfection shall have a conspicuously posted sign on the exterior side of the entry door to the chlorine room, or on the adjacent wall area.

~~In addition to displaying the appropriate hazard identification symbol for gas chlorine, the sign shall state with clearly legible letters not less than 4 inches (102 mm) high the following: DANGER: GASEOUS OXIDIZER CHLORINE.~~

~~**3119B.4 Warning Signs for Pools Without Pool Lighting.** Where pool lighting fixtures which comply with section 3114B are not provided, a sign with clearly legible letters not less than 4 inches (102 mm) high shall be posted in a prominent place near each entrance to the pool area. This sign shall state NO USE OF POOL ALLOWED AFTER DARK.~~

3120B.4 No Lifeguard Sign. Where no lifeguard service is provided, a warning sign shall be posted stating: "WARNING - NO LIFEGUARD ON DUTY". The sign shall also state "Children under the age of 14 shall not use pool without a parent or adult guardian in attendance.

3120B.5 Artificial Respiration/CPR Sign. An illustrated diagram of artificial respiration/CPR procedures as recommended by the American Heart Association shall be posted. In addition, "911" or the telephone number of the nearest emergency services shall be posted.

3120B.6 No Diving Sign. A sign stating "NO DIVING ALLOWED" shall be posted at pools with a maximum water depth of 6 feet or less.

~~**3119B.5**~~ **3120B.7 Warning Sign for a Spa Pool.** ~~A precaution sign with clearly legible letters shall be posted in a prominent place near the entrance to a spa pool which shall contain the following language:~~

~~CAUTION~~

A warning sign for spa pools shall be posted stating "CAUTION" and include the following language:

1. Elderly persons, pregnant women, infants and those with health conditions requiring medical care should consult with a physician before entering a the spa.
2. Unsupervised use by children under the age of 14 is prohibited.
3. Hot-water immersion while under the influence of alcohol, narcotics, drugs or medicines may lead to serious consequences and is not recommended.
4. Do not use alone.
5. Long exposure may result in hyperthermia, nausea, dizziness or fainting.

~~3119B.6 Approved Signs.~~ ~~Approved signs shall be maintained in a legible manner.~~

3120B.8 Emergency Shut-off. A sign shall be posted at the spa emergency shut-off switch stating "EMERGENCY SHUT-OFF SWITCH".

3120B.9 No Use After Dark. Where pools were constructed for which lighting was not required, a sign shall be posted stating, "NO USE OF POOL AFTER DARK".

3120B.10 Keep Closed. A sign shall be posted on the exterior side of gates and doors leading into the pool enclosure area stating, "KEEP CLOSED".

3120B.11 Exit. Where automatic gaseous chemical feeders are used, a sign shall be posted at the pool area entrance, which shows in a diagrammatic form, an emergency evacuation procedure. Designated emergency exits shall be marked, "EXIT".

3120B.12 Gaseous Oxidizer. Where automatic gaseous chemical feeders are used, a warning sign shall be posted on the exterior side of the door entering the chemical feeder room or area with the appropriate hazard identification symbol. The sign shall state, "DANGER: GASEOUS OXIDIZER - (specific chemical name)".

3120B.13 Turn On Before Entering. Where automatic gaseous chemical feeders are used, a sign shall be posted at the switch to the light and ventilation system for the gaseous chemical feeder room stating, "TURN ON BEFORE ENTERING".

3120B.14 Ozone. There shall be posted on the exterior of the entry door to the room containing the ozone generating equipment a sign stating "Danger: Gaseous Oxidizer - Ozone".

3120B.15 Direction of Flow. Where the recirculation equipment for more than one pool is located adjacent to another, the equipment shall be marked as to which pool the system serves. Where system manifolds are used, the direction of the flow shall be indicated with directional symbols such as arrows.

~~Section 3121B -- Foundations for pool equipment~~

~~Pool equipment shall be mounted on a portland cement concrete or other easily cleanable nonabsorbent floor material. Floors shall be sloped a minimum of 1/4 inch (6.4 mm) per foot to drains or other drainage disposal methods approved by the local enforcing agency.~~

Section ~~3120B~~ 3121B - Indoor Pool Ventilation.

A pool located indoors shall be ventilated according to acceptable engineering principles.

Note: See Section 1202.2 for ventilation requirements for dressing and toilet rooms.

~~Section 3122B Gas Chlorination Equipment Room~~

~~Compressed chlorine gas storage containers and associated chlorinating equipment, when installed indoors, shall be in a separate room of not less than one-hour fire-resistive construction and shall comply with all of the following sections:~~

~~3122B.1 Location.~~ ~~The room shall not be located in a basement or below ground.~~

~~3122B.2 Entry.~~ ~~The entry door to the room shall open to the exterior of the building or structure and shall not open directly towards the pool or pool deck.~~

~~3122B.3 Ventilation.~~ ~~A mechanically operated exhaust ventilation system shall be provided sufficient to produce 60 air changes per hour. The exhaust ventilation shall be taken at a point at or near the floor level. The system shall be vented to the outside air, and at the point of discharge shall be at least 10 feet (3048 mm) from any openable windows, an adjacent building, and above the adjoining grade level. Fresh air intakes directly communicating with the outdoors shall be located within 6 inches (152 mm) of the ceiling.~~

Section 3122B - Pool Equipment Enclosure.

For pools constructed on or after July 1, 2008, pool equipment shall be enclosed as follows:

3122B.1 All equipment installed for recirculation, filtration and disinfection of pool water shall be installed so that access is limited to persons authorized by the pool owner/operator.

3122B.2 Pool equipment shall be mounted on a continuous slab of concrete or other equivalent easily cleanable and nonabsorbent material. Floors shall be sloped a minimum of 1/4 inch per foot to a drain.

3122B.3 Equipment, except for gas fired pool water heaters, located outside of a building shall be covered entirely by a solid roof with a minimum height of 7 ft. 6 in. and shall be enclosed by fencing meeting the requirements of Section 3119B.

RECIRCULATION AND TREATMENT SYSTEM COMPONENTS

Section 3123B - General Requirements.

3123B.1 System Description. Each pool shall be provided with a separate recirculation and treatment system designed for the continuous recirculation, filtration and disinfection of the pool water. The system shall consist of pumps, filters, chemical feeders, skimmers or perimeter overflow systems, ~~and all~~ valves, pipes, connections, fittings and appurtenances.

~~**EXCEPTION:** Pools using fresh water equivalent in flow to the requirements of Sec. 3124B.~~

~~**NOTES NO. 1.** Fresh make up pool water shall conform to the physical and bacteriological standards of California Code of Regulations Title 22, Chapter 20, Section 65531.~~

~~**2.** Two spa pools shall be permitted to share one recirculation and treatment system providing the flow and chlorination feed rate to each spa pool is individually metered and adjustable.~~

3123B.2 Equipment. All pumps, filters, disinfectant chemical feeders, skimmers and supplemental treatment equipment shall meet the standards of ANSI/NSF 50-2004.

3123B.2 3123B.3 Installation. All recirculation and treatment system ~~components~~ equipment related to pool operations shall be installed and maintained according to this ~~code~~ Chapter and in accordance with the equipment manufacturer's written instructions.

~~3123B.3~~ **3123B.4 Accessibility.** All filters, valves, pumps, strainers and equipment requiring adjustment shall be readily accessible for repair and replacement.

NOTE: ~~Readily accessible means capable of being reached quickly for operation, renewal or inspections, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc.~~

Section 3124B - Turnover Time.

The recirculation ~~and purification~~ system shall have ~~sufficient~~ the capacity to provide a complete turnover of pool water in:

1. One-half hour or less for a spa pool.
2. One hour or less for a wading pool.
3. Two hours or less for a ~~temporary training~~ medical pool.
4. Six hours or less for all other types of public pools.

Section 3125B - Recirculation Piping System and Components.

3125B.1 Line Sizes. ~~Piping systems, including all parts and fittings other than inlet devices or venturi throats, shall be sized so that the flow velocity~~ The flow velocity of piping systems, including all parts and fittings other than inlet devices or venturi throats shall not exceed 40 feet per second (3.048 m/s) excepting that the flow velocity shall not exceed 8 feet per second (2.438 m/s) in any copper piping or in any pump suction piping. 6 feet per second in any suction or copper piping and 8 feet per second in any portion of the return system.

3125B.2 Gauges for Filters. ~~A gage shall be provided on each filter influent and effluent line. Each gage shall have a scale range approximately 1 1/4 times the maximum anticipated working pressure and shall be accurate within 2 percent of scale. A vacuum gage shall be provided for suction type filters.~~ Pressure gauges for filters shall be provided on each filter influent and effluent line. Influent and effluent gauges shall be located at the same elevation. Each gauge shall have a scale range 1 1/2 times the maximum working pressure and shall be accurate to within 2 pounds per square inch. A vacuum gauge shall be provided for suction-type filters having the same operational range and accuracy as pressure gauges.

3125B.3 Flow meter. ~~The recirculation system shall be provided with a flow meter.~~ A flow meter shall be provided on each recirculation system, and all other water circulating systems, accurate to within 10 percent of actual flow.

3125B.4 Hair and Lint Strainers. A hair-and-lint strainer shall be provided on the suction side of the recirculation pump if the pump takes suction prior to filtration. A hair and lint strainer will not be required on pumps connected to vacuum-type filters, where the filter elements are not removed for cleaning.

EXCEPTION: ~~A pump used with a vacuum filter where the filter elements are not removed for cleaning~~

3125B.5 Backwash Piping. Backwash Piping, including ~~necessary~~ valves, ~~conforming to Section 3125B.1,~~ shall be provided for each filter vessel or element ~~which is of a type requiring~~ requires periodic backwashing.

3125B.6 Valves. ~~Valves shall be accessible for operation and repair and shall not be located under~~ in any required deck area surrounding a pool. ~~Valves, or other approved means of control,~~ shall be installed on all recirculation, backwashing, and drain system lines which require shut off isolation, adjustment, or control of the rate of flow. Each valve shall be ~~identified with appropriate markings affixed directly to or near the valve~~ labeled as to its purpose.

Section 3126B - Recirculation Pump Capacity.

3126B.1 Pool recirculation Pumps shall have ~~design capacity at the following~~
~~heads the following total dynamic head capacities:~~

1. **Pressure diatomaceous earth filters** - At least 60 feet (~~18-288 mm~~).
2. **Vacuum diatomaceous earth filters** - Twenty inches (~~508 mm~~) vacuum on the suction side and 40 feet (~~12-192 mm~~) of total dynamic head.
3. **Rapid sand filters** - At least 45 feet (~~13-716 mm~~).
4. **High rate sand filters** - At least 60 feet (~~18-288 mm~~).
5. **Cartridge filters** - At least 60 feet.

3126B.26 Pumps with other total dynamic head capacities ~~hydraulic (flow head)~~
~~characteristics shall be permitted which comply with the flow capacity in Section~~
~~3124B provided the turnover times are attained as required in Section 3124B.~~

Section 3127B - Water Supply Inlets

3127B.1 General. ~~Each~~ The pool shall be supplied with potable water by means of a permanently installed pipeline from a public water supply system holding a permit from either the California Department of Health Services or ~~from another approved source~~ the enforcing agency.

EXCEPTION: ~~The enforcing agency may exempt spa pools, temporary pools, and pools less than 1,500 gallons (5876 L) capacity from having to use permanently installed fill lines.~~

3127B.2 Backflow Prevention. There shall ~~not be a~~ be no direct connection between any domestic potable water supply system and the pool or its piping system unless protected ~~against backflow in an approved manner~~ by a backflow prevention device as required by the California Department of Health Services provided under Health and Safety Code Sections 116800-80.

3127B.3 Air-Gap Separation for Pool Over-the-Rim Fill Inlets. Water supply inlets to a pool shall be installed and maintained to have not less than 1 inch ~~(25 mm)~~ or less than two pipe diameters, whichever is greater, above the overflow rim of the pool. Over-the-rim spouts shall be ~~installed under a diving board or shall be properly guarded to prevent tripping~~ located so as not to create a tripping hazard.

EXCEPTION: ~~Vacuum, breakers, or other backflow prevention devices, may be used instead of air-gap separation. Such devices shall be installed on the~~

~~discharge side of the last inlet valve with the critical level not less than 6 inches (152 mm) above the overflow rim of the swimming pool.~~

3127B.4 Below-Rim-Fill Inlet. A below-rim-fill inlet system shall have a backflow prevention device as required by the California Department of Health Services under Health and Safety Code Sections 116800-20 installed on the discharge side of the last inlet valve controlling make-up water to the pool. The backflow device shall be installed in compliance with local plumbing codes.

Section 3128B - Filters (All Types)

~~3128B.1 General Requirements.~~ All filters, regardless of type, shall be designed and constructed to withstand normal continuous use without deterioration which could affect filter operation. Each filter shall comply with all of the following provisions:

- ~~1. Maintain clean and clear pool water under anticipated operating conditions.~~
- ~~2. Structural or functional failures shall not permit the passage of unfiltered water.~~
- ~~3. Filtration surfaces shall be easily disassembled and inspected.~~
- ~~4. Filtration surfaces shall be easily restored to the design capacity.~~
- ~~5. Filter parts shall be capable of resisting electrolytic corrosion (galvanic electric currents) due to the use of dissimilar metals.~~

~~3128B.2 Minimum Pressure Drop.~~ The maximum pressure drop of a pressure type filter, measured from the filter housing inlet to the filter housing discharge, shall not exceed 3 pounds per square inch gage (psig) (20.68kPa gage) when initially operating at design flow rate.

~~3128B.3~~ 3128B.1 Installation. Each filter vessel and element shall be installed, piped and provided with necessary valves so that it can be isolated from the recirculation system for repairs and ~~backwashed individually~~ backwashing.

~~3128B.4~~ 3128B.2 Air Release. When the design of the filter permits accumulation of air in the top of the housing or vessel, the filter vessel shall be equipped with an air-release valve ~~connected~~ installed at the top of the housing

that will ~~expel the air which enters the filter vessel or tank~~ allow for the release of trapped air.

~~3138B.5~~ **3128B.3 Underdrain System.** The underdrain system for sand filters shall provide uniform distribution and collection of the flow during filtering and backwashing. The ~~underdrain~~ system shall be constructed of ~~corrosion-resistant~~ a material and shall be that is non-clogging.

~~3128B.6~~ **Freeboard.** For sand filters, ~~not less than 10 inches (254 mm) of~~ freeboard shall be ~~provided between the upper surface of the filter sand and the~~ lowest portion of the pipes or drains which serve as overflows during backwashing.

Section 3129B - Rapid Sand Pressure Filters

In addition to the requirements for all filters as indicated in Section 3128B, the following apply to rapid sand pressure filters:

3129B.1 Flow Rates. The filtration rate shall not exceed 3 gallons per minute gpm per square foot (~~122.24 L/m per m²~~) of filter area. The design backwash rate shall not be less than ~~12~~ 15 gpm per square foot (~~488.96 L/m per m²~~) of filter area.

3129B.2 Filter Media. The filter shall contain not less than ~~a 20 inches of~~ inch (~~508 mm~~) depth of sand and not less than a 10 inches (~~254 mm~~) depth of filter gravel above the underdrain system.

3129B.2.1 The filter sand shall have an effective particle size of ~~0.3 to 0.5 mm~~ between 0.40 and 0.55 millimeters (#30 mesh) and a uniformity coefficient of ~~not more than~~ not exceeding 1.75.

3129B.2.2 The filter gravel shall be ~~graded~~ sized and placed to provide uniform flow distribution from the underdrain system and to support the bed of filter sand without loss of sand to the pool or without development of jet streams or channeling in the filtration media.

~~3129B.3 Coagulant Addition.~~ ~~Facilities with dosage control features shall be provided for adding coagulating chemicals ahead of the filter when required by the enforcing agency.~~

Section 3130B - Diatomaceous Earth Filters.

In addition to the requirements for all filters as indicated in Section 3128B, the following apply to diatomaceous earth filters:

3130B.1 Flow Rates. The filtration rate for both pressure and vacuum-type diatomaceous earth filters shall not exceed 2 gpm per square foot (~~81.49 L/m per m²~~) ~~excepting that filters designed for continuous feeding of filter aid shall not~~ exceed 2 1/2 gpm per square foot (101.87 L/m per m²) of filter area.

~~**Note:** See also Section 3128B for other requirements.~~

3130B.2 Precoating. ~~Provisions shall be made for precoating with diatomaceous earth filter aid. Continuous feeding of filter aid shall be required in a pool with a water surface area 2000 square feet (186 m) or more, and the continuous feeding equipment shall be capable of feeding not less than 0.1 pound (0.045 kg) per 24 hours per square foot (0.093 per m²) of filter area.~~

Section 3131B - High Rate Sand Filters.

In addition to the requirements for all filters as indicated in Section 3128B, the following apply to high rate sand filters:

~~**3131B.1 Permissible Use.** Sand filters operating at filtration rates higher than the maximum rate specified in Section 3129B shall be permitted by the enforcing agency under the conditions as set forth in Section 3105B.~~

~~**3131B.2 Design and Operating Requirements.** A sand filter permitted under Sections 3105B.1, 3105B.2 and 3105B.3 shall comply with the following requirements instead of the requirements contained in Section 3129B.~~

- ~~1. The filter shall contain not less than 12 inches (305 mm) of depth of filter sand.~~
- ~~2. **3131B.1** The filter sand shall not have an effective particle size greater than 0.45 mm between 0.40 and 0.55 millimeters (#30 mesh) and a uniformity coefficient not ~~greater~~ exceeding 1.50 1.75.~~
- ~~3. **3131B.2** The design backwash rate shall not be less than 15 gpm per square foot (611.21 L/m per m²) of filter area filtration rate for a high rate sand filter shall be that specified by the ANSI/NSF 50-2004.~~
- ~~4. The filter bed shall not show any signs of migration or vary more than 1 inch (25 mm) on the surface after 15 minutes of backwashing followed by 15 minutes of filtration.~~

~~**Note:** See Section 3128B for other requirements.~~

3131B.3 The backwash rate for a high rate sand filter shall be a minimum of 15 gpm per square foot of filter area.

Section 3132B – ~~Chemical Feeders~~ Cartridge Filters.

In addition to the requirements for all filters as indicated in Section 3128B, the following apply to cartridge filters:

3132B.1 The filtration rate shall not exceed 0.375 gpm per square foot of filter area.

3132B.2 Cleaning of cartridge filters shall be done in such a manner as not to cause a nuisance. An approved wash-down area shall be provided in the pool equipment area, with discharge connected to a waste disposal system approved by the local waste discharge agency. Cartridge filter cleaning shall be done in a wash-down area provided in the pool equipment area.

3132B.3 Cartridge filters shall have permanently installed drainage piping discharging to the public sewer or waste water discharge system approved by the local waste discharge agency using an air gap separation for the purposes of draining the entire contents of the filter vessel.

3132B.4 An additional set of filter elements shall be available for installation while the existing filter elements are cleaned and dried.

Section ~~3132B~~ 3133B - Chemical Feeders.

All chemical feeders, including ~~disinfection feeders, and the auxiliary~~ those used for solutions, slurries, or solids and ancillary parts such as pumps, strainers, tubing connections, tanks, injection fittings, and other similar components shall comply with the provisions of this section.

NOTE: ~~Chemical feeders include those used for solutions, slurries or solids and also include auxiliary parts such as pumps, strainers, tubing connections, tanks, injection fittings and other required components.~~

~~3132B.1~~ 3133B.1 General Design Requirements. Chemical feeder equipment shall ~~comply with all of the following:~~

1. ~~Equipment s~~ Shall be capable of being easily disassembled for cleaning and repair.
2. ~~Equipment shall be constructed of corrosion resistant materials.~~
3. ~~Equipment shall be constructed to permit repeated adjustments without loss of output rate accuracy if equipped with an adjustable output rate device.~~
4. ~~__2. Equipment s~~ Shall be constructed to minimize a stoppage from chemicals intended to be used therein or from foreign materials that may be contained in said chemicals with an adjustable output rate device to permit repeated adjustments without loss of output rate accuracy.
3. Shall meet the applicable criteria in ANSI/NSF 50-2004.

~~3132B.2~~ 3133B.2 Piping. Piping used for the chemical feeder and its auxiliary equipment shall be resistant to ~~the chemical and erosion action of the chemicals~~

~~intended to be used therein and~~ corrosion or chemical deterioration. Piping shall be installed to permit cleaning ~~or otherwise to prevent clogging of the parts with chemicals~~ and prevent uncontrolled discharge or siphonage of chemicals and fumes directly into the pool, recirculation system, or the pool area.

~~3132B.3~~ 3133B.3 Installation. The Chemical feeders and its associated auxiliary equipment components shall be constructed and installed to prevent uncontrolled discharge or siphonage of chemicals and fumes directly into the pool, its recirculation system or the pool area.

Section ~~3133B~~ 3134B - Disinfectant Feeders.

Disinfectant feeders shall comply with ~~the provisions contained in this section in addition to the provisions contained in Section 3132B~~ applicable requirements established by ANSI/NSF 50-2004 for disinfectant feeders. In addition to the requirements for chemical feeders as indicated in Section 3133B, the following apply to disinfectant feeders:

~~3133B.4~~ 3134B.1 Minimum Capacity. The All disinfectant feeders shall be capable of supplying not less than the equivalent of ~~3~~ 2 pounds (~~1kg~~) of 100% available chlorine per day (PPD) per 10,000 gallons (~~37~~ 850 L) of pool water capacity.

~~EXCEPTION:~~ ~~A feeder of lesser capacity shall be permitted when it can be demonstrated to the enforcing agency that the lesser capacity feeder can comply with the disinfection requirements of Section 65529, Title 22, Chapter 20, California Code of Regulations.~~

~~3133B.2~~ 3134B.2 Rate of Flow Adjustment. Each feeder shall have a graduated ~~and clearly marked flow adjustment feature~~ control device capable of providing disinfectant flows from 25 percent to 100 percent of rated capacity. ~~The graduated markings and~~ shall be accurate to within 10 percent of the flow rate at any setting. A visible means of determining the rate of flow through the device shall be provided for each disinfectant feeder.

~~3133B.3~~ 3134B.3 Compressed Chlorine Gas Disinfectant Equipment.

~~Compressed chlorine gas disinfectant equipment shall comply with the provisions~~

~~contained in this section in addition to the provisions contained in Sections 3133B.1 and 3133B.2. Chlorine gas shall not be dispensed directly into the water of a pool, except as an aqueous solution through the return line of the recirculation system.~~

~~**Note:** See Section 3122B for special construction requirements of a room containing compressed chlorine gas disinfectant equipment.~~

~~3133.3.1~~ 3134B.3.1 Chlorine Compressed Gas Containers. Each compressed chlorine gas container or cylinder shall be firmly secured to prevent accidental movement. A ~~precaution~~ valve protection cap shall be provided in place ~~to cover the discharge valve~~ at all times when the cylinder is not connected to the ~~chlorinator~~ dispensing system.

~~3133.3.2~~ 3134B.3.2 Container Scale. A ~~means of weighing~~ compressed gas chlorine containers in use shall be provided on a scale in the gas chlorinator room.

~~3133B.3.3~~ 3134B.3.3 Chlorine Feeding Device. ~~In addition to the requirements contained in Section 3133B.1, the chlorine feeding device shall be capable of delivering chlorine in aqueous solution at the maximum design rate.~~ The chlorine-feeding device shall not allow the backflow of pool water into the chlorine ~~solution~~ container. The device shall not allow the release of chlorine gas to the atmosphere under normal operating conditions. The devices shall be designed and installed to conduct chlorine gas leaks to the outdoors during an ~~accident~~ a release of chlorine gas or an interruption of the water supply.

~~3133B.3.4~~ **3134B.3.4 Piping.** Piping carrying chlorine gas under pressure shall not be located outside the gas chlorination equipment room.

Section 3135B - Gas Chlorination Equipment Room.

Compressed chlorine gas storage containers and auxiliary components shall be installed indoors in a separate room of not less than 1 hour fire resistant construction and shall comply with all of the following:

3135B.1 Location. The gas chlorination equipment room shall not be located in any habitable building and shall not be located above the first floor or below ground level.

3135B.2 Entry. Required exit doors shall swing in the direction of exit of travel and shall not open directly towards the pool or pool deck.

3135B.3 Ventilation. Mechanical exhaust ventilation systems shall be in compliance with the California Mechanical Code and the California Fire Code.

3135B.4 Alarm. An audible and visual chlorine detection/alarm system shall be located in the room containing the gas chlorine equipment. The sensor shall be located within 6 inches of the floor level. The system shall continually monitor the room and shall activate when chlorine concentrations in the room exceed a Permissible Exposure Limit of 0.5 ppm. Activation of the alarm shall shut off the chlorine at the source and turn on the lights and ventilation system. The alarm system shall consist of the following:

1. An audible alarm capable of producing a sound level of at least 90 decibels.
2. A visual alarm consisting of a strobe light, which is mounted directly over the entrance of the chlorine equipment room. The light shall be visible during daylight hours.

3135B.5 Illumination. Artificial illumination of at least 50 foot-candles as measured 30 inches from the floor shall be provided in the room.

3135B.6 Switches. Switches for the control of artificial lighting and ventilation shall be located outside the room, adjacent to the entry door.

3135B.7 Storage. The gas chlorine room shall not be used for the storage of items not related to the use of the gas chlorine equipment.

Section ~~3134B~~ 3136B - Pool Skimmers. Fittings

~~The pool shall be equipped with one or more skimming methods which, when combined, shall be capable of continually withdrawing not less than 75 percent of the required circulation capacity, to provide continuous skimming of the water surface, and to provide an overflow drainage system.~~

The pool shall be equipped with one or more skimming methods to provide continuous skimming of the pool water. Skimmers, when used individually or in combination, shall be capable of continually withdrawing not less than 75 percent of the required flow rate.

~~3134B.1~~ 3136B.1 Surface Skimmers. Each surface skimmer shall comply with all of the following provisions:

1. The skimmer shall be of the a built-in type, recessed into the pool wall.
2. ~~Each~~ The skimmer shall be individually adjustable for the rate of flow with either an external or internal device. All skimmers not interconnected with the main drain shall be equipped with an equalizer valve.
3. A skimmer equalizer opening in the pool sidewall shall be covered with a tamper-proof anti-hair entrapment safety cover.
- ~~3~~ 4. The skimmer weir shall automatically adjust to variations in the pool water level over a range of not less than 4 inches ~~(102 mm)~~.
- ~~4~~ 5. The skimmer shall be provided with an air-lock protective device. ~~which shall not permit leakage of air into the recirculation suction piping system. This~~

~~device shall not leak more than 3 gpm (11.356 L/m) of water during normal operation.~~

5 6. Each skimmer shall be provided with a removable and cleanable screen or basket to trap ~~large solids~~ objects. The screen or basket shall be accessible through an opening in the deck above the skimmer.

6 7. There shall be ~~not less than~~ a minimum of one skimmer for each every 500 square feet ~~(46.45 m²)~~ of pool water surface area, or fractional part thereof.

~~7. The skimmer shall be constructed with suitable materials and methods to withstand anticipated use conditions.~~

8. Each skimmer shall be located in relation to pool inlets to aid recirculation and surface skimming.

~~EXCEPTION:~~ ~~Skimmers shall not be used as the required overflow devices on a pool with a water surface area over 5,000 square feet (464.52 m²).~~

~~3134B.2~~ 3136B.2 Perimeter Overflow Systems. A perimeter overflow system shall be required in pools whose water surface area equals or exceeds 3,000 square feet. Perimeter overflow systems shall comply with all of the following provisions:

1. **Location.** The overflow system shall be built into the perimeter of the pool walls and extend completely around the pool ~~except where steps require interruption.~~

2. **Channel Detail.** The overflow channel shall be not less than 3 inches ~~(76 mm)~~ deep, the section shall not diverge with depth of the channel, and the width of the bottom shall be not less than 3 inches ~~(76 mm)~~. The opening beneath the

coping into the overflow system shall be a minimum of 4 inches (102 mm) beneath the coping in any direction measured radially from the inner edge of the overflow channel lip.

3. **Channel Lip.** The overflow channel lip shall not be more than 12 inches (305 mm) below the level of the deck. The lip edge shall be rounded and shall not be thicker than 2 1/2 inches (64 mm) or thinner than 1 inch (25 mm) from the top 2 inches (51 mm).

4. **Channel Covering.** Covered overflow channels shall be permitted ~~providing~~ bathers cannot enter it or get his arms or legs caught in the cover the openings do not exceed 1/2 inch in the smaller dimension.

5. **Channel Outlets.** Overflow channel outlets shall be not less than 2 1/2 inches (64 mm) in diameter spaced not more than 15 feet (4572 mm) apart, and the channel bottom slope to the channel drain shall be not less than 1/4 inch (6.4 mm) per foot.

EXCEPTION: ~~Other drain~~ Alternate channel outlet spacing or and channel bottom slope shall be permitted if hydraulically designed in accordance with acceptable engineering principles by a California mechanical engineer licensed under section 6700-6799 of the Business and Professions Code.

6. **Channel Outlet Covers.** Overflow channel outlets shall be provided with a clear opening area in the grating not less than 1.5 times the cross-sectional area of the outlet ~~required in Section 3134B.~~ Openings of the channel outlet covers shall not exceed 1/2 inch in the smaller dimension.

7. **Overflow Channel Drain Piping.** ~~Overflow Channel~~ drain piping shall provide drainage of the overflow system, ~~shall~~ carry overflow water to a surge storage chamber, and ~~shall~~ establish hydraulic equilibrium in the pool and return to skimming within 10 minutes after being flooded by a sudden ~~large-use~~ displacement of the pool water by ~~bathers~~ pool users.

8. **Surge Storage Capacity.** A perimeter overflow system shall be provided with a minimum surge storage capacity of not less than 1 gallon per square foot (40.75 L/m²) of pool water surface area. Surge storage shall be permitted in the perimeter overflow channel, and in the overflow water drain piping returning to the surge chamber and in the surge chamber provided the system is evaluated and certified by a California mechanical engineer licensed under section 6700-6799 of the Business and Professions Code. The surge chamber shall be sized to contain all surge water.

9. **Surge Flow Water Level Control.** Automatic makeup (~~fresh~~) water-flow controls with a manual override ~~provision~~ control shall be provided to maintain the proper ~~operating~~ pool water level. The water line shall be the midpoint of the operating range of the skimmers. For overflow systems, the water line shall be the top edge of the overflow rim.

Section 3137B - Pool Fittings.

~~3134B.3~~ **3137B.1 Outlets.** Each pool shall be provided with a bottom main drain and outlets located in the deepest part of the pool through which circulation shall take place and by which the pool can be emptied. ~~The bottom drain and recirculation outlets shall be covered with grates or other protective devices which shall be removable only with tools. Slots or openings in grates or covers shall not exceed 1/2 inch (12.7 mm) in the smaller dimension and shall be of such area, shape and arrangement to prevent physical entrapment or a suction hazard to bathers.~~

EXCEPTION: ~~Recirculation outlets for a spa pool shall be either a safety type which cannot be completely covered by any part of the body, or shall be installed in duplicate so as to prevent a suction hazard to bathers.~~

Suction outlets shall comply with all of the following provisions:

1. Each pump on a pool circulation system shall be connected to at least two suction grate assemblies located at least 3 feet apart or, when not physically possible, on different design planes.
2. Suction grates shall be secured with fasteners, which can only be removed with tools. The openings of all grate covers shall not exceed 1/2 inch in the smaller dimension and shall be of such area, shape and arrangement to prevent physical entrapment.

3. The velocity in the pump suction hydraulic system shall not exceed 6 feet per second when 100 percent of the pump flow comes from the drain assembly and any drain suction fitting in the hydraulic system is completely blocked.

4. All suction plumbing shall be connected at a point on the pipe an equal distance between the two drains known as a "T" connection. Both branches of the "T" shall have the same size piping as the main suction plumbing.

5. The water velocity across any suction grate shall not exceed 1.5 feet per second.

3134B.4 6. Hydrostatic Relief Devices. In areas of anticipated with a high ground water table and/or as required by local plumbing codes, ~~an approved a~~ hydrostatic relief device shall be installed in the main drain.

3134B.5 3137B.2 Inlet Fittings.

1. General. Each pool shall be provided with not less than two recirculation system inlets for the first 10,000 gallons (~~37850 L~~) capacity and one additional inlet for each additional 10,000 gallons (~~37850 L~~) capacity, or fractional part thereof.

EXCEPTION: A spa pool shall be provided with not less than one inlet.

3134B.5.1 2. Construction. Inlet fittings shall not protrude greater than 1 1/4 inches (~~32 mm~~) into the pool and shall be shaped, rounded and smooth.

3134B.5.2 3. Location. Inlet fittings shall be located greater than 18 inches (~~457 mm~~) below the water line, except for a spa pool or wading pool. One floor inlet shall be provided for each 10,000 gallons (~~37850 L~~) of pool capacity for a

pool which exceeds 40 feet (~~12192 mm~~) in width. Inlet fittings shall be separated by at least 10 feet (~~3048 mm~~) and shall be located to ensure uniform circulation.

3134B.5.3 4. Adjustment. Provisions shall be made for adjusting the volume of flow through each inlet. Wall inlets shall be capable of adjusting the direction of flow and to produce sufficient velocity to impart a substantial circulatory movement to the pool water.

5. Floor Inlets. Pools greater than 40 feet in width or more than 3,000 square feet in surface area shall have floor mounted return inlets. The number of floor inlets shall be in compliance with number 1 above. All floor inlet fittings shall be located to provide uniform circulation, and shall be installed so as to be flush with the surface of the pool bottom.

Section ~~3135B~~ 3138B - Spa Pool Special Requirements.

~~3135B.1~~ 3138B.1 Aeration System. A spa pool aeration and/or jet system shall be completely separate from ~~its filtration~~ the recirculation system and shall not be interconnected with any ~~non-spa~~ other pool.

~~3135B.2~~ 3138B.2 Maximum Operating Temperature. The ~~maximum~~ allowable water temperature ~~shall be~~ of a spa pool shall not exceed 104° F ~~(57.8°~~ G) ~~for a spa pool~~ degrees Fahrenheit.

3138B.3 Surface Area. The water surface area of a spa pool shall not exceed
250 square feet.

3138B.4 Maximum Depth. The water depth in a spa pool shall not exceed 4
feet.

Section 3139B - Solar Heating Installations.

3139B.1 Solar heating systems shall not be interconnected with the pool recirculation system and shall comply with the following:

1. Solar heating systems shall remove water from the pool from at least 2 suction outlets located on the sidewall of the pool.
2. Solar heating system suction outlets and return inlets shall be located no closer than 5 feet to any pool water recirculation system fitting.

Section ~~3136B~~ 3140B - Cleaning Systems.

A ~~built-in or portable type~~ vacuum cleaning system shall be provided which is capable of removing sediment from all parts of the pool floor. ~~When jet type units are used, they~~ A cleaning system using potable water shall be provided with an approved ~~type~~ backflow protection ~~for the water system.~~ device. No cleaning system shall remain in the pool when the pool is open or available for use by pool users. Built-in vacuum suction lines shall not penetrate the pool wall.

Section ~~3137B~~ 3141B - Wastewater Disposal.

~~3137B.4~~ 3141B.1 General Requirements. Material cleaned from filters, ~~waste water from temporary training pool showers,~~ and backwash water from any pool ~~recirculation~~ system shall be disposed of in a manner ~~which~~ that is acceptable by the local sanitation agency and will not create a ~~(public)~~ nuisance. Backwash water shall not be returned to a pool.

~~3137B.1.1~~ Sand Filters. ~~In accordance with applicable local regulations, the backwash water from a sand filter shall be disposed of to a storm drain or sewer system, dry well, or, when approved, such water may be disposed of by surface or subsurface irrigation.~~

~~3137B.1.2~~ 3141B.2 Diatomaceous Earth Filters. The backwash ~~wastewater~~ from a diatomaceous earth filter shall discharge into a ~~receiving chamber~~ separation tank acceptable to the local sanitation agency and be installed to collect the waste diatomaceous earth mixture, or, when approved, such waste shall be permitted to be disposed of by other means such as to a sanitary sewer. and the wastewater shall be disposed of by discharge into a sanitary sewer system acceptable to the local sanitation agency.

~~3137B.1.3~~ 3141B.3 Piping. Sumps and drain piping shall have sufficient capacity to receive pool ~~recirculation~~ system backwash without overflow of the sump receiver. The sump shall not permit sewage to enter the surge chamber or the pool in the event of a sewage backup

~~3137B.1.4~~ 3141B.4 Visual Indicator. ~~A sight glass shall be installed on the waste water discharge line from a filter.~~

~~EXCEPTION: The sight glass shall not be required when an air gap connection from the filter vessel to a sewer or other drainage system is clearly visible to the operator during actual backwash operation.~~

Where direct observation of the backwash discharge is not visible to the operator during backwash operations, a sight glass shall be installed on the wastewater discharge line.

~~3137B.2~~ 3141B.5 Prohibited Connection. ~~No direct connection of the pool or its recirculation system shall be permitted with a sanitary sewer, storm drain or drainage system. When permitted by local regulations, discharge to a sanitary sewer shall be through an air gap type separation. There shall be no direct connection between the pool, its recirculation system or overflow drain and any sanitary sewer, storm drain or drainage system.~~

Section 3142B - Ozone

3142B.1 General Requirements. The following apply when ozone-generating equipment is used:

1. A free halogen residual shall be maintained in the pool water at all times as required in Section 65529, Title 22 of the California Code of Regulations.

2. The owner/operator submitting plans for an ozone generating system shall also obtain approval from the local building department, fire authority or other agencies regulating ozone generators before placing the ozone generating equipment into operation.

3. The ozone generating equipment shall be provided with a device to alert the operator when a component of the equipment is not operating.

4. Ozone shall be delivered to the pool recirculation system using a vacuum system such as a venturi, where a loss of vacuum will interrupt the flow of ozone.

5. Ozone generating equipment shall be equipped with an air flow meter and a device to control the airflow.

6. A check valve shall be installed between the ozone generator and the injection point.

7. The ozone injection point shall be located in the pool return line after the filtration and heating equipment, prior to the disinfectant injection point and a minimum of 10 feet from the nearest pool return inlet.

8. Ozone injection mixers, diffusers, or contact chambers shall provide thorough mixing of ozone with the recirculation water. The injection and mixing

system shall not prevent the attainment of the turnover rate required in Section 3124B.

9. The ozone equipment room shall not be used for storage of chemicals, solvents or any combustible materials other than those required for the operation of the pool recirculation and ozone generating equipment.

10. There shall be an operating procedure manual containing information on the operation and maintenance of the ozone generating equipment including the responsibilities of workers in an emergency. All employees shall receive training in the operation and maintenance of ozone generating equipment prior to operating and maintaining such equipment. Refresher training of ozone equipment operation and maintenance procedures shall be conducted a minimum of once every 6 months.

3142B.2 - Ozone Generating Equipment Located Indoors. When ozone-generating equipment is located indoors the following apply:

1. The ozone concentration in the equipment room atmosphere shall not exceed 0.1 ppm. The room containing the ozone generating equipment shall have a ventilation system providing a minimum of 3 air changes per hour and have a separate automatic emergency ventilation system that will provide a minimum of 30 air changes per hour.

2. An audible and visual ozone detection/alarm system shall be located in the room containing the ozone generating equipment. The ozone sensor shall be located at a height of 5 feet above the floor level. The alarm system shall be capable of measuring ozone in the range of 0.1 to 5 ppm. The system shall

activate when ozone concentrations reach 0.1 ppm in the room. Activation of the alarm shall shut off the ozone generating equipment and turn on the lights and emergency ventilation system. The alarm system shall consist of the following:

a. An audible alarm capable of producing a sound level of at least 90 decibels.

b. A visual alarm consisting of a flashing light shall be mounted in plain view at the entrance of the ozone equipment room.

3. Clearly labeled on/off switches shall be located directly outside of the ozone room that control and indicate the following:

a. Emergency ventilation systems.

b. Lighting in the ozone room.

c. Ozone generator.

4. Exit doors from the ozone generating equipment room shall open outward.

3142B.3 Ozone Removal. The ozone contact concentration in the pool water shall not exceed 0.1 ppm. This may be accomplished by one of the following methods:

1. The ozone generating equipment shall have an ozone removal method such as a granular activated carbon, thermal decomposition or an ozone/bromine system that will reduce the contact concentration below 0.1 ppm prior to its introduction into the pool.

2. The ozone generating equipment shall be designed and sized using either of the following formulas so that the ozone contact concentration remains below 0.1 ppm.

a. Maximum Ozone Output Allowed in grams/hr = (75% of the required Flow Rate in gpm) x (0.02268)

b. Contact Concentration in mg/l = (Ozone Generated in grams/hr) x (4.41)
(75% of the required flow rate in gpm)

3142B.4 Automatic Shut-Off of Equipment.

1. Ozone generating equipment shall automatically shut-off when any one of the following conditions occur:

a. Loss of electrical power to the pool recirculation pump or the ozone booster pump.

b. High or low electrical current to the ozone generator according to manufacturer's specifications.

c. Intake air flow falls below manufacturer's operational minimums.

d. Ozone generator door or panel is open.

2. For corona discharge ozone systems, ozone generating equipment shall automatically shut-off when any one of the following conditions occur:

a. Loss of water flow through the ozone generator.

b. High water vapor content of the intake air according to manufacturer's specifications.

c. Loss of cooling capacity.

d. Leaks or failure of the oxygen generation equipment.

3. For ozone generating equipment not requiring an ozone removal system, ozone-generating equipment shall automatically shut-off when the recirculation system is operating below 75% of the turnover rate required in Section 3124B.

3142B.5 Ozone Monitoring. Pool recirculation water shall be monitored with an ORP (oxidation reduction potential) meter, which will shut off the ozonator in the event the ORP meter reading exceeds 900 mV. The operational range of the ozone generating equipment shall be between a minimum of 650 mV and a maximum of 900 mV.

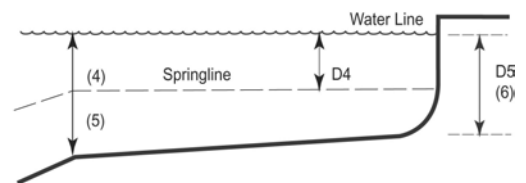
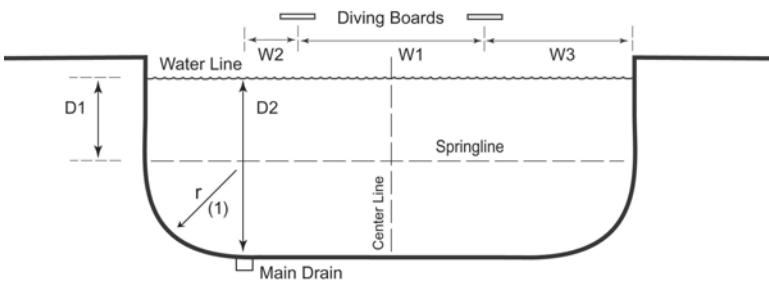
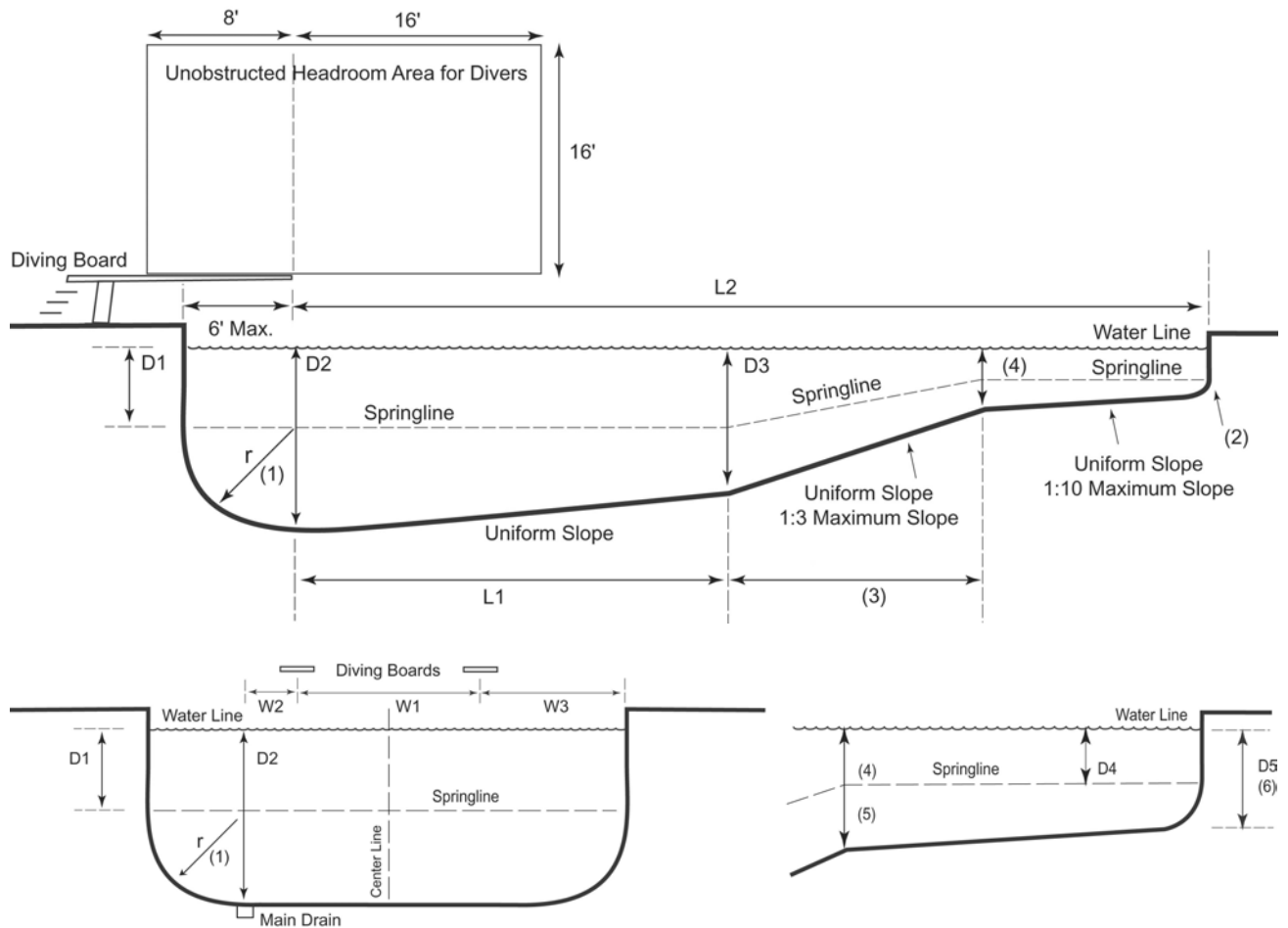
EXCEPTION: An ORP meter is not required when the ozone generating equipment does not require an ozone removal system.

3142B.6 Testing. Concentrations of ozone in the air space within 6 inches of the pool water surface shall be tested at the time ozone generating equipment is installed and annually thereafter and shall not exceed 0.1 ppm above the ambient air ozone concentration. Results of the test shall be provided to the enforcing agency.

Figure 31B-1
Depths and Clearances for Pools with Diving Boards

Greater than 30 Inches above the Water Line

Longitudinal Section



Enlarged Shallow End Section

Transverse Section through Main Drain, Deep End

Table 31B-1

		Depth of Water					Length of Section				
Boards & Platforms	Di m.	D1	D2	D3	D4	D5	L1	L2	W1	W2	W3
1-Meter Board	Min .	6' 0'	12' 0"	11' 0'	2' 6"	0' 0"	20' 0"	30' 0"	10' 0"	5' 0"	11' 0"
3-Meter Board	Min .	7' 0"	13' 0"	12' 0"	2' 6"	0' 0"	20' 0"	40' 0"	10' 0"	5' 0"	12' 0"

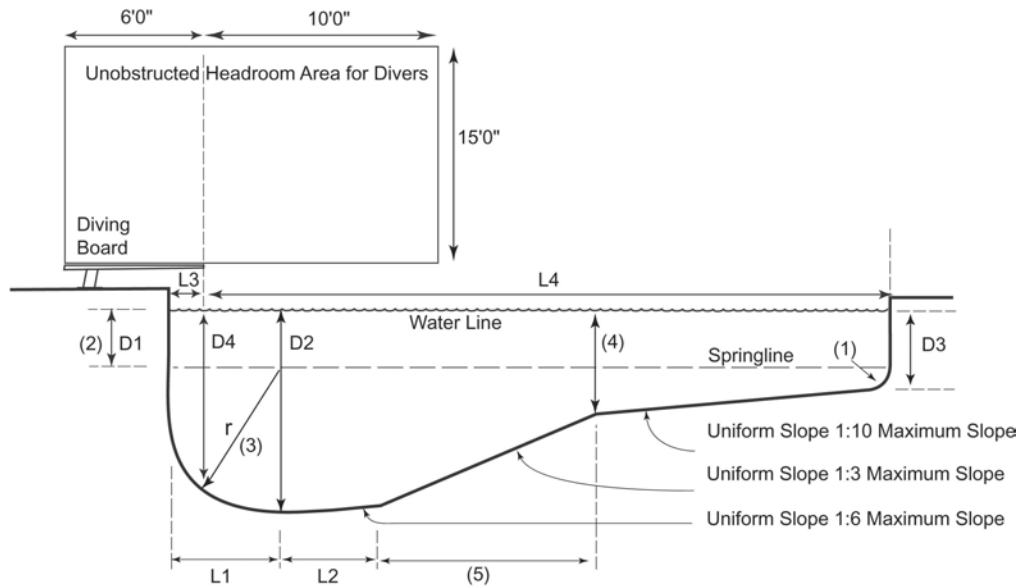
Notes for Figure 31B-1 and Table 31B-1:

- (1) Maximum radius shall equal D2 minus D1 dimensions.
- (2) Radius at the shallow end shall not be less than 6 inches nor more than 12 inches.
- (3) Length of section based on maximum slope and other maximum and minimum dimensions.
- (4) Where there is a break in slope, the break shall be located at a water depth equal to 4'6".
- (5) The springline depth at (4) shall not be less than 2'6" nor more than 4'0".
- (6) The maximum water depth shall be 3'6".

Figure 31B-2

Depths and Clearances for Pools with Diving Boards
30 Inches or Less Above the Water Line

Longitudinal Section



Transverse Section at D2

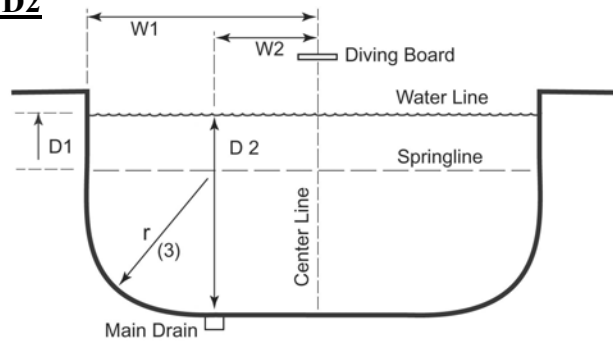


Table 31B-2

	Depth of Water				Length of Section					
Dimension	D1	D2	D3	D4	L1	L2	L3	L4	W1	W2
Minimum	2' 6"	8' 6"	0' 0"	7' 0"	6' 0"	6' 0"	2' 6"	30' 0"	9' 0"	3' 0"
Maximum	---	---	3' 6"	---	10' 0"	---	4' 0"	---	---	---

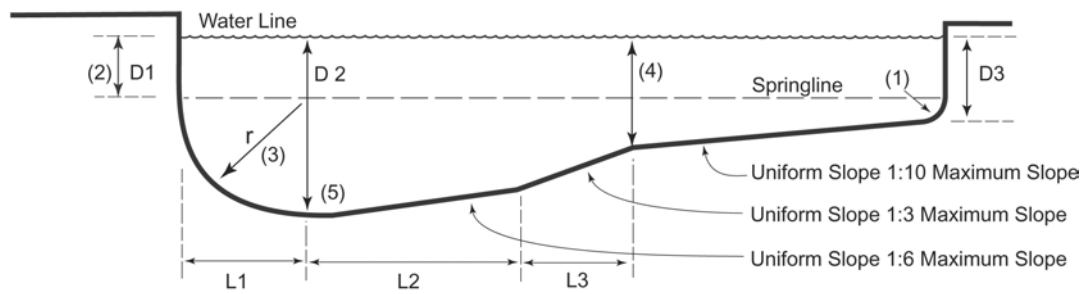
Notes for Figure 31B-2 and Table 31B-2:

- (1) Radius at the shallow end shall have a minimum 0' 6" and a maximum 1' 0".
- (2) Springline D1 shall extend to the break in slope between the shallow area and the deep area.
- (3) Maximum radius shall equal D2 minus D1 dimensions.
- (4) Where there is a break in slope, the break in slope shall be located at a water depth equal to 4' 6".
- (5) Length of section based on maximum slope and other maximum and minimum dimensions.

Figure 31B-3

Depths and Clearances for Pools without Diving Boards

Longitudinal Section



Transverse Section at D2

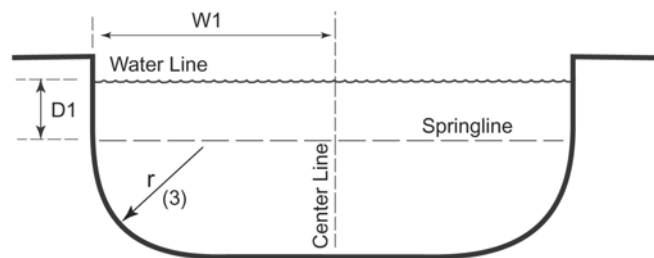


Table 31B-3a
Pools with Maximum Water Depth \leq 6'0"

	Depth of Water			Length of Section			
Dimension	D1	D2	D3	L1	L2	L3	W1
Minimum	2' 6"	(5)	0'0"	3'6"	3'0"	3'0"	6'0"
Maximum	---	6'0"	3'6"	---	---	---	---

Table 31B-3b
Pools with Maximum Water Depth > 6'0"

	Depth of Water			Length of Section		
Dimension	D1	D2	D3	L1	L2	W1
Minimum	2' 6"	(5)	0'0"	3'6"	3'0"	7'6"
Maximum	---	---	3'6"	---	---	---

Notes for Figure 31B-3, and Tables 31B-3a and 31B-3b

(1) Radius at the shallow end shall have a minimum 0'6" and a maximum 1'0".

(2) Springline D1 shall extend to the break in slope between the shallow area and the deep area.

(3) Maximum radius shall equal D2 minus D1 dimensions.

(4) Where there is a break in slope, the break in slope shall be located at a water depth equal to 4'6".

(5) Main drain shall be located to provide complete drainage of the pool.

Figure 31B-4
Depths and Dimensions for Spa Pools

Top View

